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### **REMARKS**

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and places the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicant asserts that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

### **Status of Claims**

Claims 1-3, 5-30 and 32 are pending in the application.

Claims 1-3, 5-30 and 32 have been rejected.

Claim 6 has been amended.

Applicant respectfully asserts that the amendments to the claims add no new matter.

### **CLAIM REJECTIONS**

#### **35 U.S.C. § 103 Rejections**

In the Office Action, the Examiner rejected claims 1, 6, 7, 9, 11, 13, 16, 17, 25, 26 and 28 under 35 U.S.C. § 103(a), as being unpatentable over Greenstein et al. (US patent 6,131,016, the '016 Patent) in view of Dabak et al. (US application publication No. 2004.0071118, the '118 Publication).

Applicant respectfully traverses the rejection of claims 1, 6, 7, 9, 11, 13, 16, 17, 25, 26 and 28 under 35 U.S.C. § 103(a), as being unpatentable over the '016 Patent in view of the '118 publication.

As to independent claim 1 the Examiner asserts that the '016 patent discloses adaptively and selectively selecting a coding mode of an orthogonal frequency division multiplexing sub-carrier symbol of a data stream in an orthogonal frequency division multiplexing channel, as allegedly disclosed in Col. 3, lines 59-63 and in Col. 4, line 63 – Col. 5, line 1. However, the cited portions of the '016 patent disclose: "In connection with the embodiment of the base station illustrated in FIG. 2A, the transmission processing circuits 202 and 203 create OFDM signals which are to be transmitted via transmit antennae 15 and 16 respectively. Both antennae transmit a plurality of tones

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including a pilot tone. The feedback receiver receives a feedback signal transmitted from the wireless communication terminal. Various levels of complexity with respect to such feedback signal are possible" and further "The processor 230 would then operate on this information so as to select one transmission processing circuit and "de-select" or turn off the other transmission processing circuit with respect to the cluster of tones intended for that wireless communication terminal".

The meaning of the latter citation may further be understood from the description of Fig. 2A in the '016 Patent where it is explained that the operation of processor 230 may select one processing circuit (202 or 203) and thus use one selected transmission antenna (15 or 16) while deselecting the other antenna. Further the '016 Patent clarifies that alternative use of information fed to processor 230 may be "the feedback signal received by the feedback receiver could constitute information (e.g., amplitude and/or phase) regarding the pilot tones transmitted by the respective transmission antennae. The processor 230 could then operate upon the information defining the characteristics of the pilot tones and derive its own processing requirements for the transmission processing circuitry 202 and 203.

However, the '016 patent fails to disclose, teach or suggest at least "adaptively and separately selecting a coding mode of each orthogonal frequency division multiplexing sub-carrier symbols of a data stream in an orthogonal frequency division multiplexing channel according to a received channel state information that relates to the orthogonal frequency division multiplexing sub-carrier" as recited in Applicant's claim 1 (emphasis added). The '118 publication can not cure this deficiency, and the Examiner does not claim that the '118 Publication discloses these elements. An obviousness rejection requires a teaching or a suggestion by the relied upon prior art of all the elements of a claim (M.P.E.P. §2142). The Examiner fails to establish that the '016 patent or the '118 publication, alone or in combination, teach or suggest every feature of claim 1.

As to independent claims 6 (as amended), 9 and 28, the above arguments made with respect to claim 1 are also applicable. As to independent claims 16 and 25 the above arguments are instructive. The '016 Patent fails to disclose "a coding mode selector to select a coding mode of a symbol of an orthogonal frequency division multiplexing sub-carrier according to a predetermined criterion" (emphasis added) as recited in claim 16 or "a station including a coding mode selector to select a coding mode of a symbol of an orthogonal frequency division multiplexing sub-carrier according to a

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predetermined criterion" as recited in independent claim 25. Accordingly, independent claims 6, 9, 16, 25 and 28 are likewise allowable over the cited prior art.

Regarding claims 7, 11, 13, 17 and 26 they depend, directly or indirectly from independent claims 1, 6, 9, 16 and 25, respectively and therefore include all their limitations. Therefore, Applicant respectfully asserts that claims 7, 11, 13, 17 and 26 are likewise allowable. Accordingly, the Examiner is respectfully requested to withdraw the rejection to independent claims 1, 6, 9, 16, 25 and 28 and to dependent claims 7, 11, 13, 17 and 26 dependent thereon.

The Office Action rejected claims 2, 3, 5, 8, 12, 14, 15, 18, 21, 23, 24, 27, 29, 30 and 32 under 35 U.S.C. § 103(a), as being unpatentable over the '016 patent in view of the '118 publication and further in view of Applicant's specification (the background).

Applicant respectfully traverses the rejection of claims 2, 3, 5, 8, 12, 14, 15, 18, 21, 23, 24, 27, 29, 30 and 32 under 35 U.S.C. § 103(a), as being unpatentable over the '016 patent in view of the '118 publication and further in view of the background.

The '016 Patent and the '118 Publication have been discussed with respect to independent claims 1, 6, 9, 16, 25 and 28 and the arguments made in that discussion are also applicable here. The background does not cure the deficiencies of the '016 Patent and the '118 Publication, and therefore '016 Patent, the '118 Publication and the background, alone or in combination, do not render independent claims 1, 6, 9, 16, 25 and 28 obvious. Each of claims 2, 3, 5, 8, 12, 14, 15, 18, 21, 23, 24, 27, 29, 30 and 32 depends, directly or indirectly, from one of independent claims 1, 6, 9, 16, 25 and 28, and includes all of the limitations of the claim from which it depends. Therefore, Applicant asserts that dependent claims 2, 3, 5, 8, 12, 14, 15, 18, 21, 23, 24, 27, 29, 30 and 32 are likewise allowable. Accordingly, Applicant respectfully requests the withdrawal of the rejection to claims 2, 3, 5, 8, 12, 14, 15, 18, 21, 23, 24, 27, 29, 30 and 32.

In the Office Action, the Examiner rejected claims 10 and 20 under 35 U.S.C. § 103(a), as being unpatentable over the '016 patent in view of the '118 publication and further in view of Wu et al. (US patent 6,985,434, the '434 patent).

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Applicant respectfully traverses the rejection of claims 10 and 20 under 35 U.S.C. § 103(a), as being unpatentable over the '016 patent in view of the '118 publication and further in view of the '434 patent.

Claims 10 and 20 depend from independent claims 9 and 19 respectively. The allowability of independent claims 9 and 19 over the '016 patent and the '118 publication are discussed above (claim 9) and below (claim 19), and this discussion is also applicable here. The '434 patent does not cure the deficiencies of the '016 patent and the '118 publication, as discussed above. Accordingly independent claims 9 and 19 are allowable over the '016 patent, the '118 publication and the '434 patent. Claims 10 and 20, being dependent from independent claims 9 and 19 include all the limitations of the claim from which it depends. Therefore, dependent claims 10 and 20 are likewise allowable. Therefore, Applicant respectfully requests withdrawal of the rejection to claims 10 and 20.

In the Office Action, the Examiner rejected claims 19 and 22 under 35 U.S.C. § 103(a), as being unpatentable over the '016 Patent.

Applicant respectfully traverses the rejection of claims 19 and 22 under 35 U.S.C. § 103(a).

Claim 19 recites, *inter alia*, "wherein said coding mode is selectable so that said sub-carrier is able to support the sensitivity required for transmitting in the selected mode". The allowability of this feature over the '016 patent has been discussed in length above and this discussion is also applicable here. Claim 22 depends from claim 19 and therefore includes all its limitations. Therefore claim 22 is likewise allowable. Accordingly, Applicant requests the withdrawal of the rejection of claims 19 and 22.

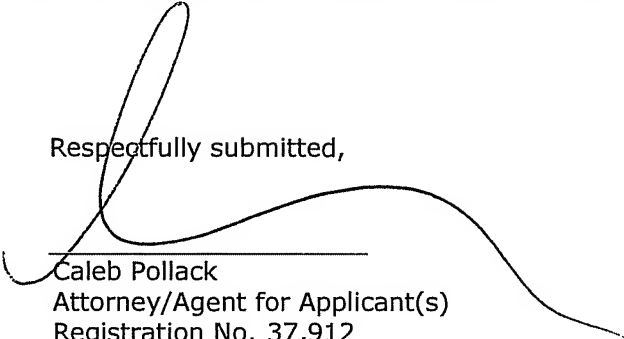
In view of the foregoing amendments and remarks, Applicants assert that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

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No fees are believed to be due in connection with this paper. However, if any such fees are due, please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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